JOURNAL OF ELECTROANALYTICAL CHEMISTRY

Vol. 370 Nos. 1 and 2 JUNE 6 1994

CONTENTS

Regular Papers

A statistical study of the potential dependence of a transfer coefficient supports the Marcus theory
A.M. Bond, P.J. Mahon (Geelong, Vic., Australia), E.A. Maxwell, K.B. Oldham (Peterborough, Ont., Canada) and C.G. Zoski (Kingston, RI, USA) 1

Cyclic voltammetry at microstructured electrodes
A. Neudeck and L. Dunsch (Dresden, Germany) 17

Theoretical study of homogeneous electron self-exchange in polar aromatic molecules: the role of the reactant structure
M.V. Vener, N.T. Ioffe, A.V. Cheprakov and V.G. Mairanovsky (Moscow, Russian Federation) 33

Multicomponent multilayer random irreversible deposition model. Part 1. A mean field study
B. Bhattacharjee and S.K. Rangarajan (Bangalore, India) 41

Influence of dissociation of tris(2,2′-bipyridyl)iron(II) cations on the time dependence of currents in clay-modified electrodes
Y. Xiang and G. Villemure (New Brunswick, Canada) 53

Photoelectrochemical response of methyl viologen cation radical incorporated in coated polysiloxane film
K. Yamada, C.B. Lin, N. Kobayashi, K. Ikeda, R. Hirohashi (Chiba, Japan) and M. Kaneko (Mito, Japan) 59

β Backscattering: a radiochemical tool for the in-situ study of the electrochemical formation and dissolution of thin layers
G. Horányi (Budapest, Hungary) 67

Electrodeposition of zinc + cobalt alloys. Relation between the electrochemical response and the composition and morphology of the deposits
M.L. Alcalá, E. Gómez and E. Vallés (Barcelona, Spain) 73

The surface structure of flame-annealed Au(100) in aqueous solution: an STM study
N. Batina, A.S. Dakkouri and D.M. Kolb (Ulm, Germany) 87

Electrochemical behavior of chromium(III)-hexacyanoferrate film modified electrodes: voltammetric and electrochemical impedance studies
Z. Gao (Turku-Åbo, Finland) 95

Impedance and frequency characteristics of electrode-separated piezoelectric quartz crystals in liquids
K. Takada, T. Tatsuma, N. Oyama (Tokyo, Japan) and T. Nomura (Nagano, Japan) 103

Polythiophenes via thiophene, bithiophene and terthiophene in propylene carbonate: an electrochemical and in-situ FTIR study
B. Rasch and W. Vielstich (Bonn, FRG) 109

Polarographic modes capable of discriminating between reversible and irreversible processes
A.M. Bond (Bundoora, Vic., Australia), G. Heneghan (North Chicago, IL, USA), K.B. Oldham (Peterborough, Canada) and D.J. Tucker (Geelong, Vic., Australia) 119

Hydrodynamic voltammetry with channel microband electrodes: resolution of ECE and DISP1 processes
R.G. Compton, R.G. Wellington, P.J. Dobson and P.A. Leigh (Oxford, United Kingdom) 129

Bioelectrochemical response of the polyaniline galactose oxidase electrode
S. Mu (Yangzhou, China) 135

Electrochemical preparation of microelectrodes modified with non-stoichiometric mixed-valent molybdenum oxides
S. Dong and B. Wang (Changchun, China) 141

Influence of the electrolyte composition and pH on the anodic dissolution of p-type Si in aqueous HF solutions
C. Serre, S. Barret and R. Hérino (Saint Martin d'Hères, France) 145

Thin films of metal dibenzotetraaza [14] annulene complexes. Part 3. Dimerization and alternated dimerizations of γ-substituted Ni^{2+} complexes
A. Deronzier and M.-J. Marques (Grenoble, France) 151

Homogeneous and heterogeneous catalytic decomposition of hydrogen peroxide by metalloporphyrin/carbon black in acid solution
Y. Yang, A.C.C. Tseung (Colchester, UK) and Z.G. Lin (Fujian, China) 159

Analysis of the differential capacity of the mercury|simple alcohol solution interface
M. Jurkiewicz-Herbich, A. Muszalska, M.M. Abdulrahim and J. Jastrzebska (Warsaw, Poland) 165

Potentiostatic preparation of poly-1,3-dimethoxybenzene films. Kinetics and bilayer structure
T.F. Otero, C. Santamaría, J. Rodríguez (San Sebastiàn, Spain), Y. Martínez, R. Ortíz, O.P. Márquez and J. Márquez (Mérida, Venezuela) 171

Electrogeneration of poly-1,3-dimethoxybenzene uniform coatings by consecutive square-wave potentials: kinetic studies
R. Ortíz, Y. Martínez, J. Márquez, O.P. Márquez (Mérida, Venezuela), T.F. Otero, J. Rodríguez and C. Santamaría (San Sebastián, Spain) 177

Use of convolutive potential sweep voltammetry in the calculation of hydration equilibrium constants of α-dicarbonyl compounds
M. Ruiz Montoya and J.M. Rodríguez Mellado (Córdoba, Spain) 183

Dual quartz crystal microbalance compensation using a submerged reference crystal. Effect of surface roughness and liquid properties
S. Bruckenstein, A. Fensore, Z. Li (Buffalo, NY, USA) and A.R. Hillman (Leicester, UK) 189

Transformation of cyclic voltammograms of polyparaphenylene (PPP) filmsprepared by adding strong acid to SO_2: correlation between redox behavior and microstructure of polymer chains
S. Hara, S. Aeiyach and P.-C. Lacaze (Paris, France) 197

Competitive self-assembly and electrochemistry of some ferrocenyl-n-alkanethiol derivatives on gold
S.E. Creager and G.K. Rowe (Bloomington, IN, USA) 203

Coupled radiometric and electrochemical study of the reduction of TcO_4^- ions at a gold electrode in acidic medium (mechanistic aspects of Tc deposition)
G. Horányi and I. Bakos (Budapest, Hungary) 213

Effect of underpotentially deposited Pb, Tl, Cd and Cu adatoms on the oxidation of formaldehyde at Pd
G. Ritzoulis and N. Georgolios (Thessaloniki, Greece) 219

Electrochemical behavior of polyaniline films in acetonitrile
N. Pekmez, K. Pekmez and A. Yıldız (Ankara, Turkey) 223

Electrochemical oxidation of 2,5-di-(-2-thienyl)-pyrrole in acetonitrile: cathodic stripping of the electrogenerated conducting polymer
T.F. Otero (San Sebastián, Spain), J. Carrasco, A. Figueras and E. Brillas (Barcelona, Spain) 231

New results in the electro-oxidation of formaldehyde on a platinum electrode in an acid medium
P. Olivi, L.O.S. Bulhões (São Carlos, Brazil), J.-M. Léger, F. Hahn, B. Beden and C. Lamy (Poitiers, France) 241

An in situ FTIR study of the electrochemical oxidation of methanol at small platinum particles
P.A. Christensen, A. Hamnett, J. Munk and G.L. Troughton (Newcastle upon Tyne, UK) 251

Activation enthalpy for ligand-bridged electroreduction of cobalt(III) complexes in mixtures of water with acetone
J.S. Jaworski and Z. Kebede (Warsaw, Poland) 259

Electrochemical study of chlorophyll *a* adsorbed on SnO_2
Y. Yang, R. Zhou, Y. Han and Y. Jiang (Jinan, China) 269

Kinetics of dissociative adsorption of formic acid on Pt(100), Pt(610), Pt(210) and Pt(110) single-crystal electrodes in perchloric acid solutions
S.-G. Sun, Y. Lin, N.-H. Li and J.-Q. Mu (Xiamen, China) 273

Adsorption of 2-amino-5-nitropyridine on the (111) and (210) silver faces
M.L. Foresti, M. Innocenti (Firenze, Italy) and A. Hamelin (Meudon, France) 281

Nafion® adsorption|anion transfer at the interface between two immiscible electrolyte solutions (ITIES)
M.D. Osborne (Edinburgh, Scotland) and H.H. Girault (Lausanne, Switzerland) 287

Short Communications

On the characterization of sulfur species on sulfide mineral surfaces by X-ray photoelectron spectroscopy and Raman spectroscopy
A.N. Buckley (North Ryde, NSW, Australia) and R. Woods (Port Melbourne, Vic., Australia) 295

Chloride adsorption on Ag(111) studied by in-situ scanning tunnelling microscopy
G. Aloisi (Firenze, Italy), A.M. Funtikov (Moscow, Russian Federation) and T. Will (Ulm, Germany) 297

Polypyrrole–Prussian Blue films with controlled level of doping: codeposition of polypyrrole and Prussian Blue
A.A. Karyakin and M.F. Chaplin (Moscow, Russian Federation) 301

Application of ac impedance for in-situ real time measurement of changes in the bulk conductivity of aqueous zeolite dispersions during electrolysis
D.N. Blauch and D.R. Rolison (Washington, DC, USA) 305

Voltammetric behaviour of NO_3^- ions at platinized platinum electrodes (electrocatalytic activity of electrodes with (100) preferred orientation)
I. Bakos and G. Horányi (Budapest, Hungary) 309

Author index 315

Subject index 317